

Remarks/Arguments

Claims 1-39 are pending in this Application. Claims 1-31 and 37-39 have been withdrawn. In the Office Action mailed April 5 2006, the Examiner rejected Claims 32-36 under 35 U.S.C. §112, second paragraph, as being indefinite and under 35 U.S.C. §102(b) as being anticipated by Kirk et al. (US Patent No. 6,419,742); and provisionally rejected Claims 32-36 for nonstatutory obviousness-type double patenting.

Claims Rejections - 35 U.S.C. § 112, second paragraph

In paragraph 3 of the Office Action, the Examiner rejected Claims 32-36 as being indefinite for using a phrase “valence-mending atoms” in the claims. Applicants respectfully point out that the phrase is particularly pointed out in the specification at, for example, paragraphs [0020], [0025] and [0027]. Applicants respectfully submit amended Claim 32, amended to include “wherein valence-mending atoms comprise atoms that create a surface without dangling bonds,” [Emphasis identified amended text.] Support for amended Claim 32 are provided in the paragraphs identified above; the amended claim does not add new matter. Accordingly, Applicants submit that amended Claim 32 particularly points out and distinctly claims subject matter regarded as the invention. Withdrawal of the rejection under 35 U.S.C. §112, second paragraph is respectfully requested as well as entry and allowance of the amended claim as provided in the Listing of Claims beginning on page 2 of this paper.

Claim 35 is further stated to be unclear as to whether the claim recites an intended use or a means to claim. Applicants respectfully point out that Claim 35 is provided to particularly point out and distinctly claim and disclose the term “passivating agent” as provided in amended Claim 32. No amendment to Claim 35 is believed to be required as the claim is written in standard and acceptable language that particularly points out and distinctly claims subject matter as set forth in amended Claim 32.

Claims Rejections - 35 U.S.C. § 102(b)

In paragraph 5 of the Office Action, the Examiner rejected Claims 32-36 as being anticipated by Kirk et al. (herein “Kirk”). The Examiner states,

“Kirk discloses a semiconductor surface (silicon) comprising an atomic layer of arsenic formed therein, wherein the arsenic layer serves to passivate the silicon substrate (Col. 5, lines 3-15, for instance). Regarding the limitation recited in Claim 32 that “valence mending occurs after introducing the semiconductor surface to a

passivating agent,” to the extent that this language refers to intended use, it is not entitled patentable weight. Regarding claim 36, since the article of Kirk contains a coating layer, it necessarily would prevent one of the reactions recited in Claim 36 and meets this functional limitation.”

Applicants respectfully disagree with the Examiner’s statement for several reasons as pointed out herein. With regards to arsenic serving to passivate the silicon substrate, contrary to the Examiner’s statement, Applicants point out that, as is known to one of ordinary skill in the art, arsenic does not form one atomic layer of valence mending atoms on the semiconductor surface of silicon and create a surface without dangling bonds. Arsenic is a group IV element and when added to a silicon surface will leave dangling bonds on the surface. Applicants further point out that contrary to the Examiner’s statement regarding Claim 36, Applicants are aware of general knowledge in the art that forming a coating layer is equivalent to providing a semiconductor surface free of interfacial reactions, such as oxidation, chemical adsorption, and/or solidification. Applicants respectfully request the Examiner point to specific evidence of such a teaching should it exist. For the reasons set forth herein, Applicants submit that Kirk does not teach or suggest, expressly or inherently, each and every element of Claims 32-36. As such, Claims 32-36 are not anticipated by Kirk. Accordingly, Applicants respectfully request entry and allowance of these claims for the reasons set forth above.

Double Patenting

In paragraph 6 of the Office Action, the Examiner provisionally rejected Claims 32-36 for nonstatutory obviousness-type double patenting as being unpatentable over Claims 28-31 of copending Application No. 10/822,345. Applicants respectfully request the provisional rejection be held in abeyance until the allowance of patentable subject matter in this application.

Conclusion

In light of the remarks and arguments presented with this Amendment, Applicants respectfully submit that the pending claims provided in the Listing of Claims beginning on page 2 of this paper are in condition for allowance. No new matter is introduced with this Amendment. Accordingly, favorable consideration for and allowance of all pending claims are respectfully requested.

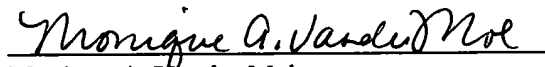
Applicants believe no additional fees are due with this response. If this is incorrect, Applicants hereby authorize the Commissioner to charge the additional fees, other than the issue fee, that may be required by this paper to Deposit Account 07-0153.

If the Examiner has any questions or comments, or if further clarification is required, it is requested that the Examiner contact the undersigned at the telephone number listed below.

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Respectfully submitted,

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